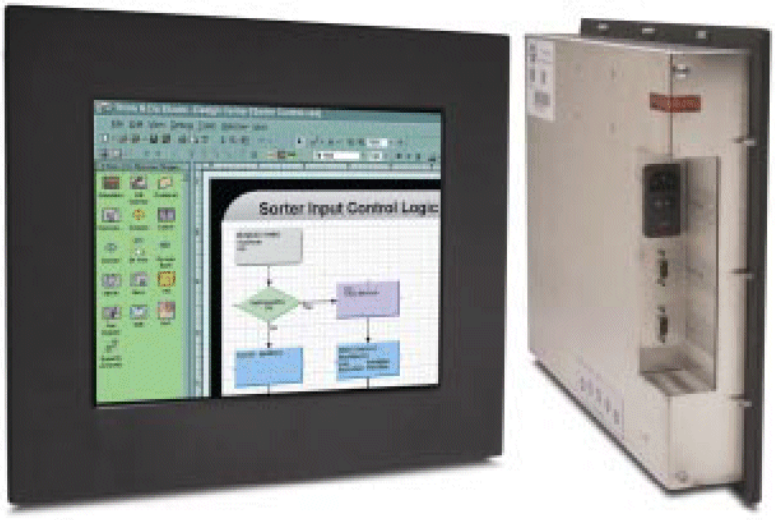
AYDIN DISPLAYS

a sparton company

CAMBRIDGE
USERS MANUAL

CFP19 Family

Panel Mount
Rack Mount
VESA Wall Mount



LCD Monitor User Guide

150-CFP-190(-)

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1 Display Setup

Section

Product Safety Precautions

Safety Precautions

CAUTION: SHUT OFF YOUR TOUCH SCREEN BEFORE CLEANING!!

IF YOUR DISPLAY HAS A TOUCH SCREEN PANEL, THE SCREEN WILL BE ACTUATED BY CLEANING. PRESSING ON THE SCREEN WHILE CLEANING WILL BE SEEN AS A TOUCH TO THE SYSTEM WHICH COULD CREATE A POTENTIALLY DANGEROUS CONDITION!

- Do not attempt to service this display yourself. The rear chassis has a seal so that non-qualified personnel will not expose themselves to dangerous voltages or other risks.
- To protect from electrical shock, unplug the display power supply from the wall before moving.
- Do not use this display near water.
- Do not place any heavy objects on the power cords. Damage may cause electrical shock.
- Unplug the power supply from the wall or unit if one of the following conditions exists:
  - Power cord or plug is damaged or frayed.
  - Liquid is spilled into the display or the display is exposed to rain or water.
  - The display does not operate normally when the operating instructions are followed.
  - The display has been dropped or the enclosure has been damaged.
  - The display exhibits a distinct change in performance, indicating a need for service.
- Ensure that sufficient space is available around the display to provide air circulation for cooling.
- Ensure that the ambient air temperature will not exceed the specified maximum temperature.
- Do not expose the display to direct sunlight or heat.

Included Parts

Open shipping container and lay all components on a flat clean surface.
Your LCD monitor package will consist of the primary components listed below:

- LCD Monitor
- 6 ft Video Cable
- 6 ft AC Power Cord
- 6 ft RS-232 Touch Interface Cable (touch screen units only)
- 6 ft USB Touch Interface Cable (touch screen units only)
- Suitable Mounting Hardware (for use with Panel Mount or Rack Mount)
- Documentation and Driver CD ROM
- Users Manual

Connecting Your Display

1. Connect all cables to the computer first. This includes the VGA cable, and if the unit has a touch screen, the RS-232 serial or the USB touch screen connection.

2. After connecting the cables between the LCD monitor and the computer, connect the supplied AC Power Cord to a suitable power source.

3. The LCD will immediately power up.

4. If your computer is off, turn on your computer.

5. Your display should now operate as a normal computer display – displaying the computers BIOS screens and booting into Windows or other operating system.

NOTE: If for any reason the display goes blank and/or displays an "Out of Range" or "No Input Signal" message on the screen, your computer or video source may be putting out a signal that is incompatible with the LCD monitor. If this happens, you will need to adjust the computer to output a compatible video signal (see *Appendix G*).

Below are the most common reasons a display may not operate correctly:

1. The resolution is too high or low for the LCD or wrong sync signal configuration is provided.
2. The refresh rate is set too high. Refresh on an LCD is different than a CRT. Set the refresh to 60Hz. CRT's need a high refresh rate to avoid flicker. The refresh rate has no impact on an LCD.
3. The power source is incorrect, or there is no power. Check if the rear LED is ON or blinking. If the LED is not lit, check to be sure there is power to the unit.
4. The unit is malfunctioning. If you believe this to be true, disconnect the video cable from the rear of the LCD and connect to a known good display. If an alternate display operates correctly, and the video is in a compatible range then contact Aydin Displays, Inc. technical support.

2 Getting Started

Section

Display Features

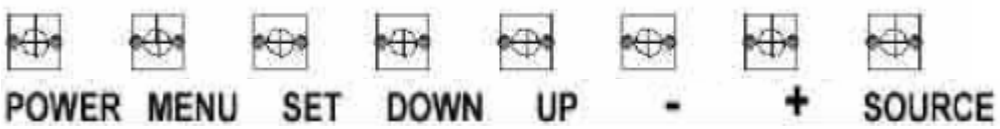
- The LCD is capable of displaying 16.7M colors in a continuous spectrum.
- The high contrast LCD enhances the image with no geometric distortion.
- The LCD directly accepts an Analog 3, 4 or 5 Wire RGB with sync input.
- The LCD is auto synchronous – adjusting the display to the appropriate VGA/SXGA input.
- The LCD is supplied with an Anti-Glare Touch Screen or an Anti-Glare impact window on non touch screen models.

Adjusting the Display

The LCD display has an embedded microprocessor in the converter card which is the electronics that drives the LCD. In most cases the unit will require very little, if any, user intervention to operate correctly - that is to produce a sharp stable picture. The micoprocessor in the display has the capability to adjust itself to the computer to which it is attached. If the picture is not satisfactory, the first step is to allow the unit to attempt to adjust itself to your computer.

The membrane keypad used for adjusting the display is below:

Keyboard Layout & Functions



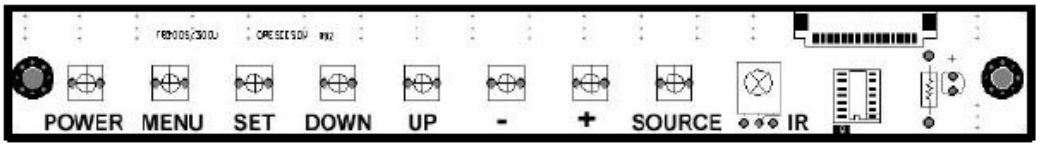
1. With the OSD off, push the **Menu** button to activate the main OSD Menu.

2. Use the **Up/Down** buttons to move from one function to another. As you move from one icon to another, the function name changse to reflect the function or group of functions represented by the icon.

3. Press the **Set** button once to activate the highlighted function. Use the **Up/Down** buttons to select the function.

4. After selecting a function, use the **– or +** buttons to make necessary adjustments. The setting bar moves and the numeric value indicator changes to reflect the adjustment.
   NOTE: The numeric value indicator is provided as a point of reference only and has no refernce to a real meaurement.

5. Push the **Menu** button a couple of times to return to the Main Menu to slect another function or to exit from the OSD.



① POWER ⇨ Function of Power ON/OFF.

② MENU ⇨ Function of showing or eliminating OSD image.

③ SET ⇨ Function of selecting function icon when main OSD is active.
Auto adjustment when you press over two seconds (DSUB ANALOG only).
Indicating current source and mode when you press once.

④ UP/DOWN ⇨ Function of moving source input or function icon.

⑥ + / - ⇨ Function of Adjusting value of function bar.

⑦ SOURCE ⇨ Function of Selecting one among four kinds of sources (DVI,D-SUB,S-VHS,VIDEO).

⑧ IR ⇨ Function of receiving remote control signal (OPTION).

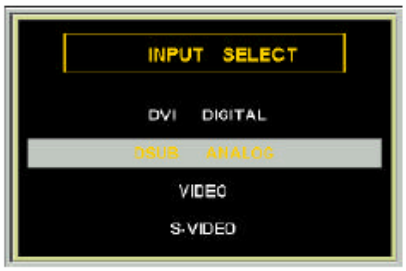
⑨ LED ⇨ Function of showing present power state.
Green: system power on Blinking : DPMS mode Off : system power off

B. INPUT SELECT

☞ Press SOURCE key on your key board. You will see the below Menu. Move input source to what you want with UP/DOWN key and press SET key. The selected input source is displayed on main screen.

☞ You can select one among four sources. (DVI DIGITAL,DSUB ANALOG, VIDEO, S-VIDEO)

☞ Repressing is the end of this state.



① DVI DIGITAL ⇨ Digital output signal of PC.

② DSUB ANALOG ⇨ Analog output signal of PC.

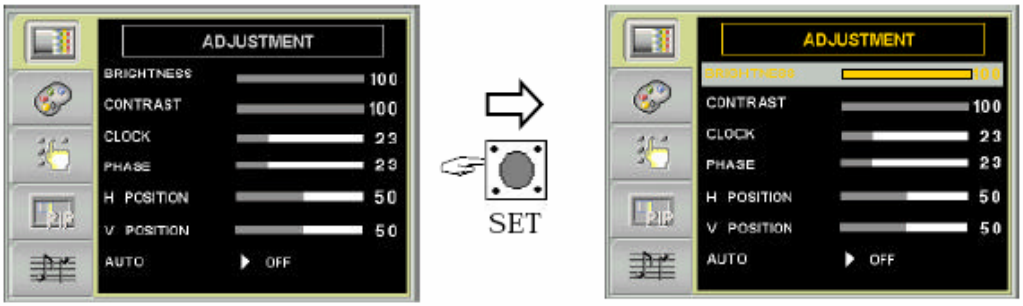
③ VIDEO ⇨ Composite siginal output of VIDEO or DVD.

④ S-VIDEO ⇨ Serparate signal output of VIDEO or DVD.

C. ADJUSTMENT

☞ You can adjust many kinds of controls about main screen. But this function is different from each source.

1) DSUB ANALOG



☞ Press MENU key,OSD screen appears. Press UP/DOWN key, you can move four function group. Press SET key at ADJUSTMENT group highlighted, press UP/DOWN key, You can move function icon bar and adjust value of each item with +/- key.

☞ Press MENU key To return previous state and press MENU key twice to exit OSD.

① BRIGHTNESS ⇨ Function of adjusting main screen brightness.

② CONTRAST ⇨ Function of adjusting main screen contrast.

③ CLOCK ⇨ Function of adjusting main screen sampling clock frequency.

④ PHASE ⇨ Function of adjusting main screen sampling clock phase.

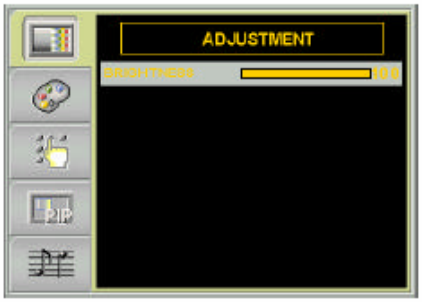
⑤ H POSITION ⇨ Function of adjusting the horizontal position of main screen .

⑥ V POSITION ⇨ Function of adjusting the vertical position of main screen .

⑦ AUTO ⇨ Function of optimizing main screen (DSUB ANALOG only).

2) S-VHS,VIDEO

3) DVI DIGITAL



① SHARPNESS ⇨ Function of adjusting main screen sharpness.

② COLOR ⇨ Function of adjusting main screen color depth.

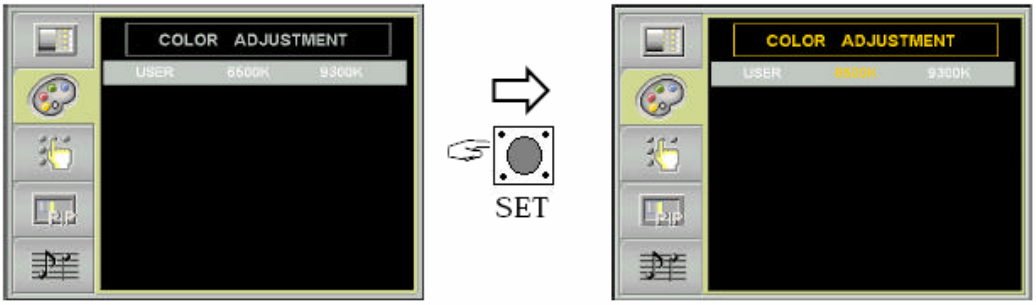
③ TINT ⇨ Function of adjusting main screen tint.

D. COLOR ADJUSTMENT

☞ You can adjust main screen color.
this is a common function about four sources.

☞ Press MENU key,OSD screen appears. Press UP/DOWN key, you can move four function group. Press SET key at COLOR ADJUSTMENT group highlighted, press UP/DOWN key, you can move function icon bar and adjust value of item with +/- key.

☞ Set MENU key To return previous state and press MENU key twice to exit OSD.



① USER ⇨ Function of adjusting R,G,B value of image respectively.
② 6500K ⇨ Function of selection Reddish color.
③ 9300K ⇨ Function of selection Bluish color.

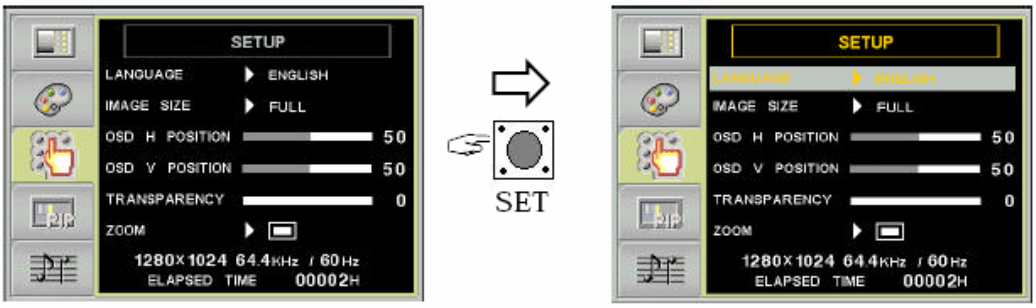
E. SETUP

☞ You can adjust additional function.
This is a common function about four source.

☞ Press MENU key,OSD screen appears. Press UP/DOWN key, you can move four function group. Press SET key at SETUP group highlighted, press UP/DOWN key, you can move function icon bar and adjust value of item with +/- key.

☞ Press SET key one more to use zoom function.

☞ Set MENU key to return previous state and press MENU key twice to exit OSD.

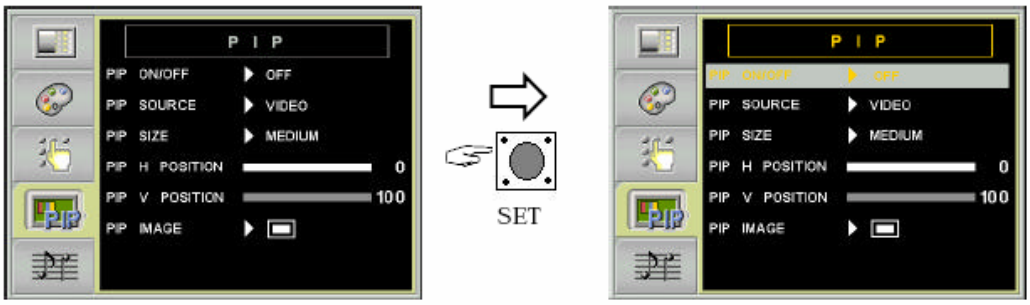


① LANGUAGE ⇨ Function of selection OSD language (English,Germany,France,Spain,Italy).
② IMAGE SIZE ⇨ Function of adjusting screen size according to input source
S-VHS,VIDEO ⇨ 1:1,normal1,normal2,full
DVI,DSUB ⇨ full,normal,1:1

③ OSD H POSITION ⇨ Function of adjusting the horizontal position of OSD image .
④ OSD V POSITION ⇨ Function of adjusting the vertical position OSD image .
⑤ TRANSPARENCY ⇨ Function of reflecting main image to OSD screen.
⑥ ZOOM ⇨ Function of closing up the main screen.

F. PIP

☞ You can adjust PIP(picture in picture) function.
DVI DIGITAL and DSUB ANALOG only.



☞ Press MENU key,OSD image appears. Press UP/DOWN key, you can move four function group. Press SET key at PIP group highlighted, press UP/DOWN key, you can move function icon bar and adjust value of item with +/- key.
☞ Press SET key one more to use PIP IMAGE function.
☞ Set MENU key To return previous state and press MENU key twice to exit OSD.

① PIP ON/OFF ⇨ Function of selecting PIP enable or disable.
② PIP SOURCE ⇨ Function of selecting PIP source (S-VHS, VIOEO)
③ PIP SIZE ⇨ Function of adjusting PIP screen size (SMALL,MEDIUM,LARGE).
④ PIP H POSITION ⇨ Function of adjusting the horizontal position of PIP screen .
⑤ PIP V POSITION ⇨ Function of adjusting the vertical position of PIP screen .
⑥ PIP IMAGE ⇨ Function of adjusting brightness,contrast,sharpness,color,tint of PIP screen .

G. AUDIO (OPTION)

3 Touch Screen Set-up

Section

Introduction to Touch Screens

Touch screen interfaces have become the standard interface in the past 5 years. They are rugged, reliable, extremely flexible and easier than ever to implement! The universal acceptance of the Windows GUI (Graphical User Interface) along with the extensive use of a mouse interface has significantly accelerated the use of a touch interface. Think of your touch screen as if it were a mouse.

Touch Screens Provided

5 Wire Resistive	RS-232 or USB
Capacitive	RS-232 or USB
SAW	RS-232 or USB

Touch Screens and Special Drivers

Software drivers for touch screen systems are provided in the Aydin Displays, Inc. accessory kit. It is always good to download the latest drivers from the respective web sites.

Refer to the individual manufacturer's documentation or contact the manufacturer to obtain special drivers:

- 3M Touch

Additional drivers, manuals and instructions for touch systems can be found at:
www.3m.com/3mtouchsystems

- Touch International

Additional drivers, manuals and instructions for touch systems can be found at:
www.touchintl.com

- ELO Touch

Additional drivers, manuals and instructions for touch systems can be found at:
www.elotouch.com/support/dnld.asp

Follow the manufacturer's instructions for installing special drivers.

4 Section Mounting Instructions

Panel Mounting Procedure

1. Cut and drill the panel to the proper size (see panel cutout in *Appendix H*). Measurements are shown in inches.
2. If access to the side of monitor is not available following installation, attach the power and video cables to the side of the monitor at this time.
3. Install the monitor in the prepared cutout.
4. Install the washers and lock nuts.
5. Tighten all mounting nuts evenly to approximately a torque of 24 inch-pounds.

ATTENTION: Mounting nuts must be tightened to a torque of approximately 24 inch-pounds to provide panel seal and avoid potential damage. Aydin Displays, Inc. assumes no responsibility for water or chemical damage to the monitor or other equipment within the enclosure due to improper installation.

6. Attach the power, video and touch screen cables (if applicable) to the side of the monitor.

Rack Mounting Procedure

1. Position the monitor to the proper position in the rack.
2. Install the screws. Tighten all mounting screws evenly to approximately a torque of 23 inch-pounds.
3. Attach the power, video and touch screen cables (if applicable) to the side of the monitor.
4. If access to the side of the monitor is not available following the installation, attach the power and video cables to the side of the monitor at the same time

VESA Wall Mounting Procedure

The monitor is a self contained, rugged, industrial, aluminum metal enclosure. The rear of the unit has 4 100mm 10/32” holes for mounting hardware from an external arm or stand or special feature.

1. Position the monitor on the face being careful not to scratch the front.
2. Attach the 100mm bracket supplied with arm kit.
3. Install the arm based on the instructions supplied with the arm.
4. Attach the power, video and touch screen cables to the under side of the monitor.

Section 5 Troubleshooting Tips

No picture	The signal cable should be properly connected to the display and computer. Try disconnecting the video cable from the display and connecting to another display if available to confirm the presence of proper video. Make sure the power is connected to the proper AC source. Make sure the resolution mode is supported by the display and check display settings of the PC. Confirm that the video cable is not defective.

Image persistence	Image persistence occurs when a ghost of an image remains on the screen after the screen image has been changed. Unlike a CRT monitor, an LCD monitor's image persistence is not permanent. To erase an image ghost, turn the monitor off for several hours. What happens is that after extended periods of operation the liquid crystals "set". To avoid this condition, install a screen saver program on the computer.

Picture quality & image stability	Check for proper video cable for proper grounding and shielding. Check the signal source for proper signal. Check for proper adjustment of the phase and frequency controls. Check for proper recommended signal timing.

Green LED not lit	Check for proper power and power connections.

Display image is not properly sized	Press the "**Select**" button to Auto Adjust the display. Adjust the Vertical and Horizontal size controls via the OSD (reference *OSD Adjustments*). Ensure that a supported mode is selected on the display card or system being used. Consult the display card or system manual for proper video.

Image will not adjust	Video timing outside of range. Use the on-screen menu to adjust the Clock Setting. Make sure timing is within VESA standard.

Slight distortion in text or graphics	Not working in native resolution.

Display is present but "bars" appear or roll across screen	Ground loop problem between computer and display. Interference from adjacent equipment.

Vertical shaded bars on screen image	Horizontal size is not properly adjusted. Adjust horizontal size.

Image is not stable	Monitor has incorrect or bad sync signals. Check for proper video cable installation. Replace suspected faulty cable. Check to ensure that the video source is within the display's operating range.

Section 6 Cleaning & Maintenance

Cleaning

Occasionally clean the display panel and cabinet with a soft cloth dampened (not soaked) with a mild (non-abrasive) glass cleaner. Keep turning a fresh side of the cloth toward the screen surface to avoid scratching it with accumulated grit.

NOTE: The solvent should be applied only to the cloth, **NOT** directly on the monitor screen.

Do not use paper products as they may scratch the surface. To minimize the risk of abrasion, allow the screen to air dry. Special care should be taken when cleaning a touch screen or polycarbonate shield that is installed over the screen. Abrasive and certain chemical cleaners can damage the surface.

Never use alcoholic or ammoniac cleaners to clean the polycarbonate shield or a touch screen.

Replacing a Line Cord

To avoid shock and fire hazards, the monitor's power cord should be replaced if the insulation becomes broken or if it develops a loose internal connection.

Other Maintenance

Qualified service personnel should perform all maintenance, except for the power cord replacement described above.

7 Appendices

Section

Appendix A – Video Pin Assignments

Pin assignments for the HD15 Video Connector

Pin 1	Red Video	Pin 9	No Connection
Pin 2	Green Video	Pin 10	Sync Ground
Pin 3	Blue Video	Pin 11	Not Used
Pin 4	Not Used	Pin 12	Bi-Directional Data
Pin 5	Return	Pin 13	Horizontal Sync
Pin 6	Red Video Ground	Pin 14	Vertical Sync
Pin 7	Green Video Ground	Pin 15	Data Clock (SCL)
Pin 8	Blue Video Ground		

Appendix B – RS-232 Pin Assignments

Pin assignment for the 9 Pin Optional Touch Screen Connector

Pin 1	DCD	Data Carrier Detect
Pin 2	RD (Rx)	Receive Data
Pin 3	SD (Tx)	Transmit Data
Pin 4	DTR	Data Terminal Ready
Pin 5	SG	Signal Ground
Pin 6	DSR	Data Set Ready
Pin 7	RTS	Request to Send
Pin 8	CTS	Clear to Send
Pin 9	NC	No Connection

Appendix C – DVI Video Pin Assignments

Pin 1	TMDS Data 2-
Pin 2	TMDS Data 2+
Pin 3	TMDS Data 2/4 Shield
Pin 4	TMDS Data 4- (NC)
Pin 5	TMDS Data 4+ (NC)
Pin 6	DDC Clock
Pin 7	DDC Data
Pin 8	No Connection
Pin 9	No Connection
Pin 10	TMDS Data 1-
Pin 11	TMDS Data 1/3 Shield
Pin 12	TMDS Data 3- (NC)
Pin 13	TMDS Data 3+ (NC)
Pin 14	5 V
Pin 15	Ground
Pin 16	Hot Plug Detect
Pin 17	TMDS Data 0-
Pin 18	TMDS Data 0+
Pin 19	TMDS Data 0/5 Shield
Pin 20	TMDS Data 5-
Pin 21	TMDS Data 5+
Pin 22	TMDS Clock Shield
Pin 23	TMDS Clock +
Pin 23	TMDS Clock –

Appendix D – S-Video Pin Assignments

Pin 1	Ground
Pin 2	Ground
Pin 3	Chroma
Pin 4	Luma

Appendix E – NTSC Pin Assignments

Pin 1	Composite Video
Pin 2	Ground

Appendix F – CFP19 Specifications

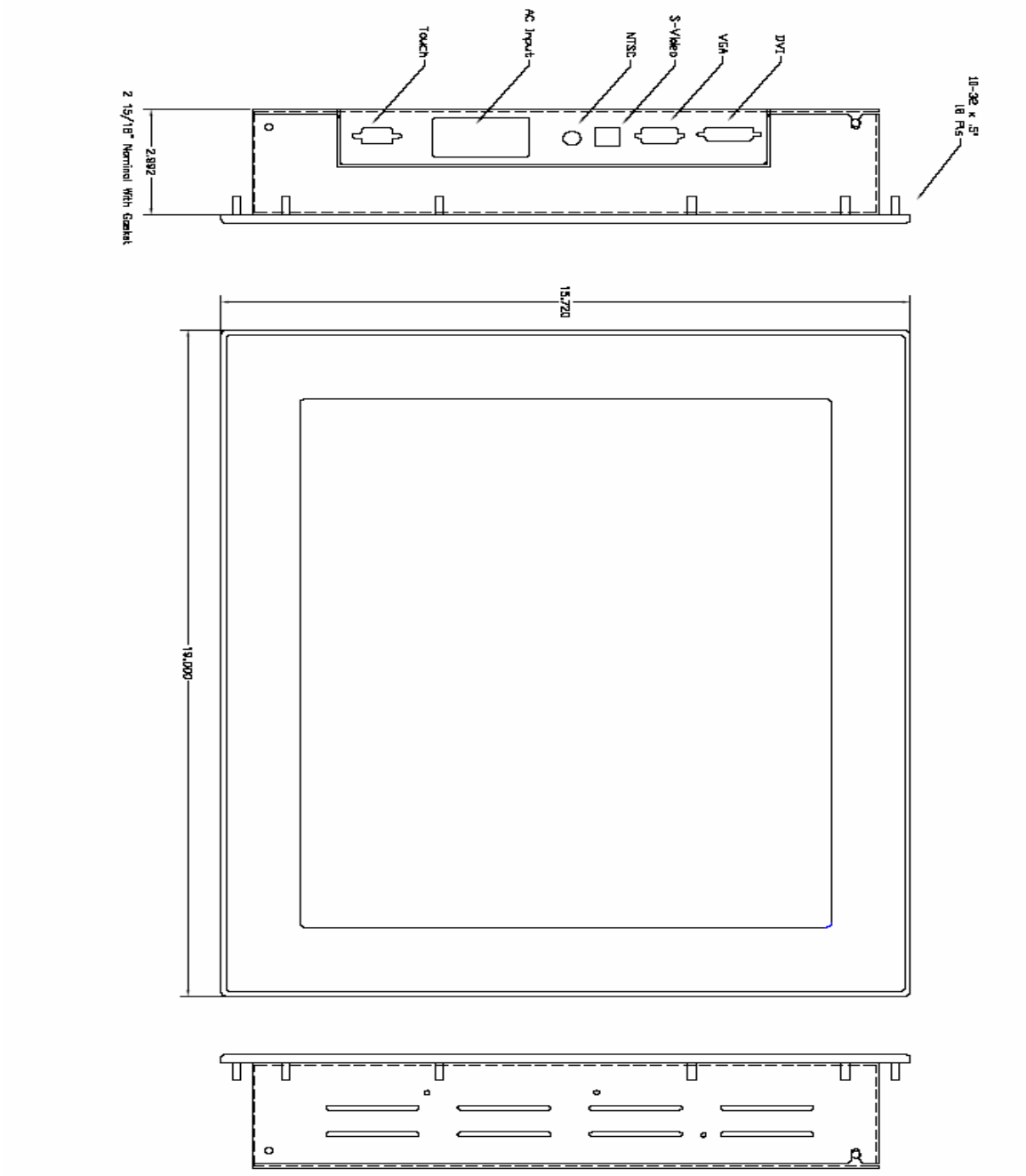
Active Screen Area	14.82” x 11.85” (376.32 x 301.056mm)
Pixel Pitch	.294mm
Response Time	15/10ms typical
Brightness	250 nits typical
Contrast	600:1
Lamp Life	40K
Wide Dimming Range	Optional
Max Screen Resolution	VGA/SXGA
PC Video Input	Separate Sync (5 Wire) Composite Sync (4 Wire) Sync on Green (3 Wire)
Screen Controls	Front or Rear
Video	NTSC/PAL
Native Resolution (best picture)	SXGA
View Angle L / R	85/85
View Angle Up / Dn	85/85
Input Voltage	90 to 264VAC auto-switching
Current Draw	.40a @ 120VAC
Input Power	48W
Chassis Construction	16 Ga SS
Bezel Construction	Al Machined .250”
Bezel Finish	Black Textured
Auto Adjust	Yes, On Power Up, Manual
Resistive Touch	Yes
5 Wire Touch	Yes
Touch Interface	RS-232 or USB
Recessed Cable Exit	Yes
DVI Interface	DVI-D Standard (female)
PC Video Interface	VGA (HD-15F) (female)
S-Video	4 Pin Mini Din (female)
NTSC	RCA (female)
Colors	24bit (16.7M)
Operating Temperature	0° to 50° C
Storage Temperature	0° to 60° C
Storage Humidity	10% to 95% relative humidity non-condensing
NEMA Front End	4/12

Appendix G – Supported Video Modes

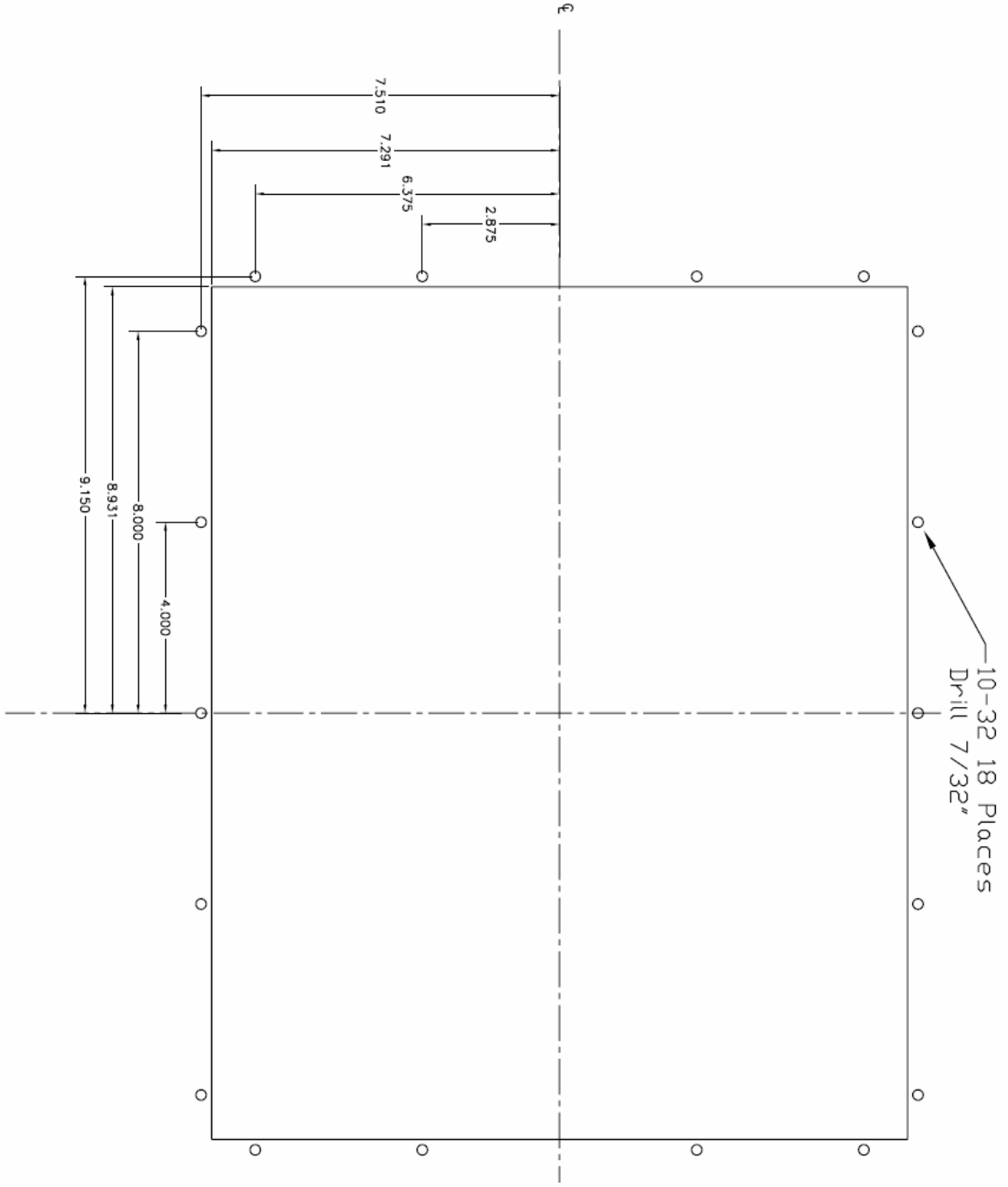
Mode	Resolution	Clk [MHz]	Horizontal freq [KHz]	Vertical freq [Hz]	Sync Mode
E1_70	640x350	25.175	31.469	70	Digital Separate Sync
E1_70	640x350	25.175	31.469	70	Sync On Green (with or without serrate pulse)
E1_70	640x350	25.175	31.469	70	Composite Sync (with or without serrate pulse)
E1_85	640x350	31.500	37.861	85	Digital Separate Sync
E1_85	640x350	31.500	37.861	85	Sync On Green (with or without serrate pulse)
E1_85	640x350	31.500	37.861	85	Composite Sync (with or without serrate pulse)
E2_70	640x400	25.175	31.469	70	Digital Separate Sync
E2_70	640x400	25.175	31.469	70	Sync On Green (with or without serrate pulse)
E2_70	640x400	25.175	31.469	70	Composite Sync (with or without serrate pulse)
E2_85	640x400	31.500	37.861	85	Digital Separate Sync
E2_85	640x400	31.500	37.861	85	Sync On Green (with or without serrate pulse)
E2_85	640x400	31.500	37.861	85	Composite Sync (with or without serrate pulse)
T_70	720x400	28.322	31.469	70	Digital Separate Sync
T_70	720x400	28.322	31.469	70	Sync On Green (with or without serrate pulse)
T_70	720x400	28.322	31.469	70	Composite Sync (with or without serrate pulse)
T_85	720x400	35.500	37.927	85	Digital Separate Sync
T_85	720x400	35.500	37.927	85	Sync On Green (with or without serrate pulse)
T_85	720x400	35.500	37.927	85	Composite Sync (with or without serrate pulse)
V_62	736x480	28.200	31.403	62	Digital Separate Sync
V_62	736x480	28.200	31.403	62	Sync On Green (with or without serrate pulse)
V_62	736x480	28.200	31.403	62	Composite Sync (with or without serrate pulse)
V_60	640x480	25.175	31.469	60	Digital Separate Sync
V_60	640x480	25.175	31.469	60	Sync On Green (with or without serrate pulse)
V_60	640x480	25.175	31.469	60	Composite Sync (with or without serrate pulse)
V_67	640x480	31.500	37.500	67	Digital Separate Sync
V_67	640x480	31.500	37.500	67	Sync On Green (with or without serrate pulse)
V_67	640x480	31.500	37.500	67	Composite Sync (with or without serrate pulse)
V_72	640x480	31.500	37.861	72	Digital Separate Sync
V_72	640x480	31.500	37.861	72	Sync On Green (with or without serrate pulse)
V_72	640x480	31.500	37.861	72	Composite Sync (with or without serrate pulse)
V_75	640x480	31.500	37.500	75	Digital Separate Sync
V_75	640x480	31.500	37.500	75	Sync On Green (with or without serrate pulse)
V_75	640x480	31.500	37.500	75	Composite Sync (with or without serrate pulse)
V_85	640x480	36.000	43.269	85	Digital Separate Sync
V_85	640x480	36.000	43.269	85	Sync On Green (with or without serrate pulse)
V_85	640x480	36.000	43.269	85	Composite Sync (with or without serrate pulse)
SV_56	800x600	36.000	35.156	56	Digital Separate Sync
SV_56	800x600	36.000	35.156	56	Sync On Green (with or without serrate pulse)
SV_56	800x600	36.000	35.156	56	Composite Sync (with or without serrate pulse)
SV_60	800x600	40.000	37.879	60	Digital Separate Sync
SV_60	800x600	40.000	37.879	60	Sync On Green (with or without serrate pulse)
SV_60	800x600	40.000	37.879	60	Composite Sync (with or without serrate pulse)
SV_72	800x600	50.000	48.077	72	Digital Separate Sync
SV_72	800x600	50.000	48.077	72	Sync On Green (with or without serrate pulse)
SV_72	800x600	50.000	48.077	72	Composite Sync (with or without serrate pulse)
SV_75	800x600	49.500	46.875	75	Digital Separate Sync
SV_75	800x600	49.500	46.875	75	Sync On Green (with or without serrate pulse)
SV_75	800x600	49.500	46.875	75	Composite Sync (with or without serrate pulse)
SV_85	800x600	56.250	53.674	85	Digital Separate Sync
SV_85	800x600	56.250	53.674	85	Sync On Green (with or without serrate pulse)
SV_85	800x600	56.250	53.674	85	Composite Sync (with or without serrate pulse)

X_60	1024x768	65.000	48.363	60	Digital Separate Sync
X_60	1024x768	65.000	48.363	60	Sync On Green (with or without serrate pulse)
X_60	1024x768	65.000	48.363	60	Composite Sync (with or without serrate pulse)
X_70	1024x768	75.000	56.476	70	Digital Separate Sync
X_70	1024x768	75.000	56.476	70	Sync On Green (with or without serrate pulse)
X_70	1024x768	75.000	56.476	70	Composite Sync (with or without serrate pulse)
X_72	1024x768	75.000	57.515	72	Digital Separate Sync
X_72	1024x768	75.000	57.515	72	Sync On Green (with or without serrate pulse)
X_72	1024x768	75.000	57.515	72	Composite Sync (with or without serrate pulse)
X_75	1024x768	78.750	60.023	75	Digital Separate Sync
X_75	1024x768	78.750	60.023	75	Sync On Green (with or without serrate pulse)
X_75	1024x768	78.750	60.023	75	Composite Sync (with or without serrate pulse)
X_87I	1024x768 43Hz Interaced	44.900	35.522	87	Digital Separate Sync
X_87I	1024x768 43Hz Interaced	44.900	35.522	87	Sync On Green (with or without serrate pulse)
X_87I	1024x768 43Hz Interaced	44.900	35.522	87	Composite Sync (with or without serrate pulse)
X_85	1024x768	94.500	68.677	85	Digital Separate Sync
X_85	1024x768	94.500	68.677	85	Sync On Green (with or without serrate pulse)
X_85	1024x768	94.500	68.677	85	Composite Sync (with or without serrate pulse)
SX_60	1280x1024	108.000	63.981	60	Digital Separate Sync
SX_60	1280x1024	108.000	63.981	60	Sync On Green (with or without serrate pulse)
SX_60	1280x1024	108.000	63.981	60	Composite Sync (with or without serrate pulse)
SX_72	1280x1024	135.000	78.125	72	Digital Separate Sync
SX_72	1280x1024	135.000	78.125	72	Sync On Green (with or without serrate pulse)
SX_72	1280x1024	135.000	78.125	72	Composite Sync (with or without serrate pulse)
SX_75	1280x1024	135.000	79.976	75	Digital Separate Sync
SX_75	1280x1024	135.000	79.976	75	Sync On Green (with or without serrate pulse)
SX_75	1280x1024	135.000	79.976	75	Composite Sync (with or without serrate pulse)
NTSC S_Video	---	14.318	15.734	60	---
PAL S-Video	---	17.75	15.625	50	---
NTSC Composite Video	---	14.318	15.734	60	---
PAL Composite Video	---	17.75	15.625	50	---

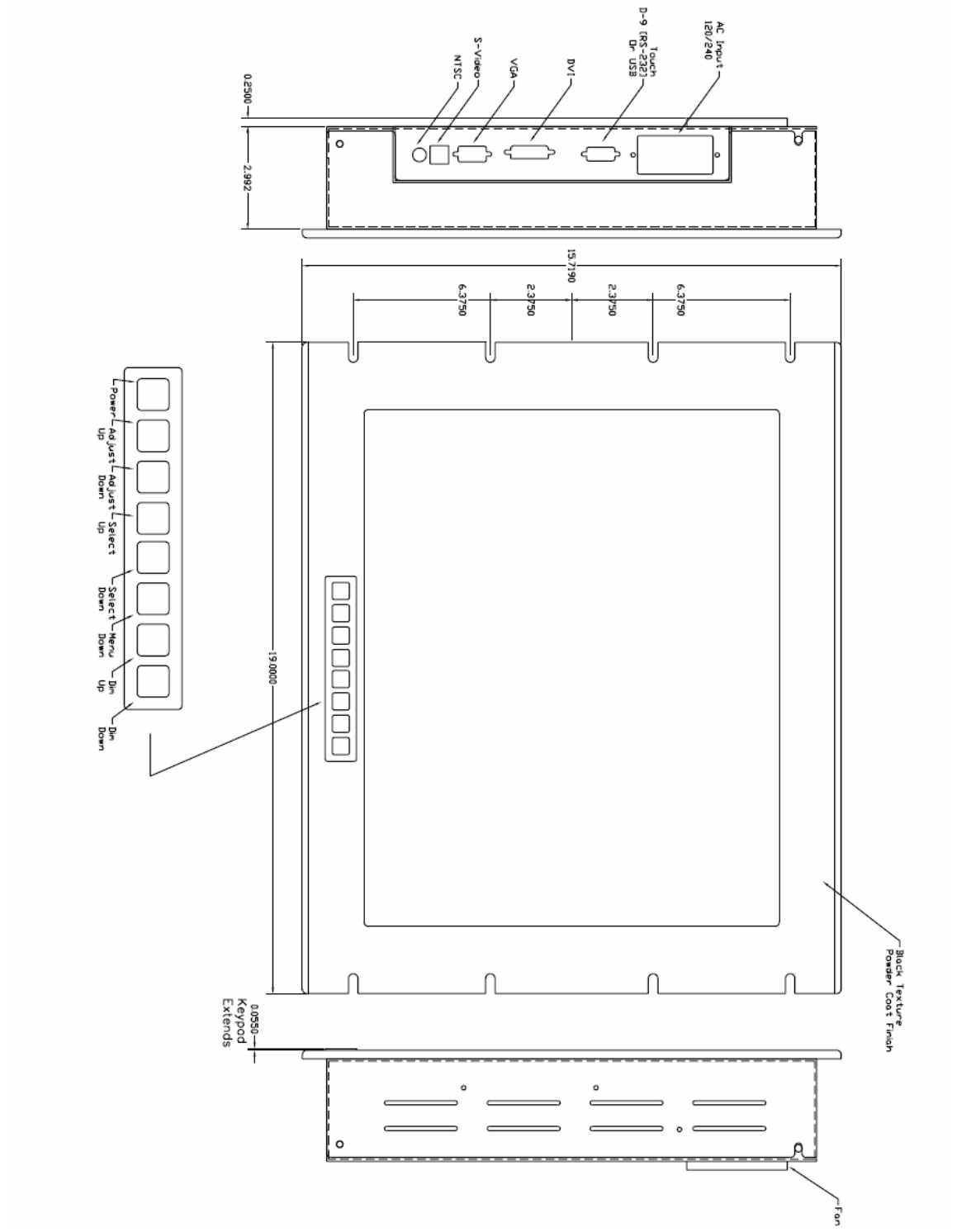
Appendix H – Mounting Dimensions
CFP19P1 Outline Dimensions



Appendix H – Mounting Dimensions
CFP19P1 Cutout Dimensions



Appendix H – Mounting Dimensions
CFP19R1 Rack Mount



Appendix H – Mounting Dimensions
CFP19W1 Wall Mount